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(74) Agent: LE ROUX, Marius; D M Kisch Inc. P.O. Box
781218, 2146 Sandton (ZA).

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(71) Applicant (for all designated States except US): ISCOR
LIMITED [ZA/ZA]; Roger Dyason Street, 0183 Pretoria
West (ZA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PAXTON, Richard,
George [GB/GB]; Moor View, 8 Little Aston Lane,
Sutton Coldfield, West Midlands B74 3UF (GB). FEL-
LOWS-SMITH, Michael [ZA/ZA]; 5 miles Sharp Street,
Rynfield, 1501 Benoni (ZA). MINSZENTY, Friedrich,
Michael [ZA/ZA]; 32 Somerset Road, Kensington, 2094
Johannesburg (ZA). MINSZENTY, Christian, Alexan-
der [ZA/ZA]; 32 Somerset Road, Kensington, 2094
Johannesburg (ZA).

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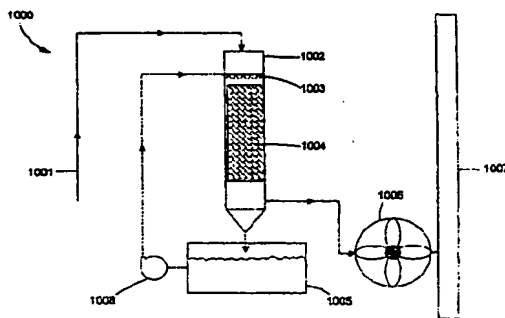
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(54) Title: GAS CLEANING PROCESS AND EQUIPMENT THEREFOR



(57) **Abstract:** The invention relates to equipment for use in the removal of relatively fine particulates from a first substance, using a second substance. The equipment includes a static, co-current contacting mixer section, having a plurality of stages defining a flow path, with a flow profile, for the first and the second substance, at least some of the stages being shaped to define a substantially curved flow path having an effective centre of curvature located to one side of the flow path, and wherein each adjacent stage has a centre of curvature on an opposite side of the flow path to provide a point of inflexion between adjacent stages and whereby, as the substances flow through the reactor between the adjacent stages, particles present in the first substance migrate through the second substance, first in one direction and then in a substantially opposite direction to promote interphasic interaction between the first and the second substance. The flow path characterised in being provided with an edge formation between at least two adjacent stages towards the point of inflexion so as to enhance the launch of the second substance on the outside of the curved flow path of one stage at relatively high velocity from the edge formation to the inside of the curved flow path of the adjacent stage, thus increasing the contact between the first and the second substances. The equipment also includes a cyclonic section and a spinner section. The invention also relates to a method for the removal of relatively fine particulates from a gas stream, using a scrubbing fluid, as well as a plastic composite material for the manufacture of the equipment.

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